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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,830	11/20/2003	David G. Conroy	MS1-4172US	8567

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EXAMINER

ZHEN, LI B

ART UNIT	PAPER NUMBER
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2194

NOTIFICATION DATE	DELIVERY MODE
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11/10/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

Office Action Summary	Application No. 10/717,830	Applicant(s) CONROY ET AL.	
	Examiner LI B. ZHEN	Art Unit 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-18,20-23 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-18,20-23 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3 – 6, 8 – 18, 20 – 23 and 26 are pending in the application.

Response to Arguments

2. Applicant's arguments filed 7/29/2009 have been fully considered but they are not persuasive. In the response, applicant argues:

(1) Zintel does not teach wherein the one or more services comprise an information service, the information service being configured to produce a customizable tag-based document that holds events which have been generated by the one or more services but not yet consumed by an application service, and further wherein the customizable tag-based document holds the state the one or more services [paragraphs 0009 and 0018]; and

(2) Saint does not teach or suggest the use of a “cursor shape service for describing the shape of an on-screen cursor” [paragraphs 0015, 0024 and 0029].

As to argument (1), examiner respectfully disagrees and notes that Zintel teaches one or more services comprise an information service [With each new event message a service generates, the service increments the key, and includes that key in the event message; paragraph 0757], the information service being configured to produce a customizable tag-based document [paragraphs 0436 – 0452] that holds events which have been generated by the one or more services but not yet consumed by an application service [UPnP event notification is an XML message sent over

HTTP/TCP to each and every subscriber to a particular UPnP service; paragraphs 0273 – 0277], and further wherein the customizable tag-based document holds the state the one or more services [UPnP events are mainly used for asynchronous notifications of state changes; paragraphs 0125 and 0294].

As to argument (2), examiner respectfully disagrees because Saint teaches a display service includes a cursor shape service [various types of input, from no input at all to pen-input, keyboard, mouse, and button input. Each type of input will generally be handled by a respective input service, wherein the existence and capabilities of each input service will be described in that service's UPnP description information; paragraph 0144 – 0146 of Saint] for describing the shape on an on-screen cursor [If the device has a display, these pointer primitives may have a different resolution that may not match the x and y of the display; paragraph 0155]. The display associated with input service in Saint corresponds to the cursor for the mouse. Saint also teaches requesting invoking a cursor shape service that changes the shape of the cursor [MouseDown event, paragraph 0152]. The MouseDown event triggers the change in the shape of the cursor for the mouse.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 3 – 5 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US 20020029256 to Zintel et al. [hereinafter Zintel, previously cited].**

5. As to claim 1, Zintel teaches a device in a networked system [paragraph 0042] that is a computer subsystem [paragraph 0071], comprising:

one or more services executing in the device [paragraph 0078], each service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080] and a unilateral contract [paragraphs 0213, 0214, 0261, 0266 – 0269, 0524] for describing one or more behaviors of the service [Contracts describe the public behavior of UPnP devices; paragraph 0557] wherein the one or more behaviors are described by behavior sentences [paragraphs 0558 – 0563; paragraph 0213: “Contract defines network data packets 413, request/response patterns, and protocol”], wherein the unilateral contract specifies an order of messages that flow in or out of services [wire protocol (the content and sequence of network messages); paragraphs 0261 and 0267], wherein the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract [discovery process returns only the basic information needed to connect to the embedded computing device; paragraphs 0524, 0528] or when the external service performs the unilateral contract according to the order of messages specified in the unilateral contract [Rehydrator 410 converts calls of an application

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program 416 to the IClock interface 414 into the network data messages specified in the Contract to invoke the corresponding commands of the Clock Service; paragraph 0214], wherein acceptance of the unilateral contract creates an instance of communication between services [paragraphs 0117, 0214, 0524, 0528], and wherein the one or more services comprise an information service [With each new event message a service generates, the service increments the key, and includes that key in the event message; paragraph 0757], the information service being configured to produce a customizable tag-based document [paragraphs 0436 – 0452] that holds events which have been generated by the one or more services but not yet consumed by an application service [UPnP event notification is an XML message sent over HTTP/TCP to each and every subscriber to a particular UPnP service; paragraphs 0273 – 0277], and further wherein the customizable tag-based document holds the state the one or more services [UPnP events are mainly used for asynchronous notifications of state changes; paragraphs 0125 and 0294].

6. As to claim 3, Zintel teaches wherein the one or more services comprise a data service, the data service being capable of storing input/output events generated by the device and further being capable of responding to queries regarding the input/output events [paragraphs 0213, 0220, 0293].

7. As to claim 4, Zintel teaches a network device driver that enables communication between services [paragraphs 0515 and 0549].

8. As to claim 5, Zintel teaches a decentralized operating system on which the one or more services are executed [paragraphs 0128 and 0135].

9. As to claim 26, Zintel teaches in a networked system [paragraph 0042], a device that is a computer subsystem [paragraph 0071], comprising:

one or more services executing in the device [paragraph 0078], each service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080], and a unilateral contract [paragraphs 0213, 0214, 0261, 0266 – 0269, 0524] for describing one or more behaviors of the service [Contracts describe the public behavior of UPnP devices; paragraph 0557], wherein the port associated with the service comprises behavioral types [Contract is a specification of the wire protocol; paragraph 0267], and wherein the device communicates with another device of the networked system based on compatibility of behavioral types [Contract defines network data packets, request/response patterns, and protocol via which the packets are exchanged; paragraph 0213], the device being capable of coupling to the networked system to exchange customizable, tag-based messages [paragraph 0276], and wherein the one or more services comprise an information service [With each new event message a service generates, the service increments the key, and includes that key in the event message; paragraph 0757], the information service being configured to produce a customizable tag-based document [paragraphs 0436 – 0452] that holds events which have been generated by the one or more services but not yet consumed

by an application service [UPnP event notification is an XML message sent over HTTP/TCP to each and every subscriber to a particular UPnP service; paragraphs 0273 – 0277], and further wherein the customizable tag-based document holds the state the one or more services [UPnP events are mainly used for asynchronous notifications of state changes; paragraphs 0125 and 0294].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 6, 8 – 12 and 14 are rejected under 35 U.S.C. 103(a) as Zintel in view of U.S. Application Publication No. 20030101294 to Saint-Hilaire et al. [hereinafter Saint].**

12. As to claim 6, Zintel teaches in a networked computer system [paragraph 0042], a terminal service [paragraph 0062], comprising:

a display service [digital television, devices that support local user interface; paragraphs 0061, 0062 and 0078] with a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080] and a unilateral contract [paragraphs 0213, 0214, 0261, 0266 – 0269, 0524] for describing one or more behaviors of the display service [Contracts describe the public behavior of UPnP devices; paragraph 0557],

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wherein the one or more behaviors associated with a service are described by behavior sentences [paragraphs 0558 – 0563; paragraph 0213: “Contract defines network data packets 413, request/response patterns, and protocol”], wherein the unilateral contract is accepted when an other service promises to perform the unilateral contract in accordance with the one or more behaviors [paragraphs 0524, 0528] or when the other service performs the unilateral contract in accordance with the one or more behaviors [paragraph 0214], and wherein acceptance of the unilateral contract creates an instance of communication between the display service and another service [paragraphs 0117, 0214, 0524, 0528]. Zintel does not specifically teach a cursor shape service for describing the shape of an on-screen cursor.

However, Saint teaches a display service includes a cursor shape service [various types of input, from no input at all to pen-input, keyboard, mouse, and button input. Each type of input will generally be handled by a respective input service, wherein the existence and capabilities of each input service will be described in that service's UPnP description information; paragraph 0144 – 0146 of Saint] for describing the shape on an on-screen cursor [If the device has a display, these pointer primitives may have a different resolution that may not match the x and y of the display; paragraph 0155].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the system of Zintel to include the features of Saint. One of ordinary skill in the art would have been motivated to make the combination because this provides a mechanism that enables interaction between a low-cost networked device and an "extended" personal computer, wherein a majority of

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the software and hardware components used to enable the interaction are provided by the extended PC, and the remote device requires limited hardware that supports "lightweight" software service components [paragraph 0023 of Saint].

13. As to claim 8, Zintel as modified teaches the display service includes a cursor position service for describing the position of an on-screen cursor [paragraph 0144 – 0146 of Saint], the cursor position service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the cursor position service [paragraph 0557 of Zintel].

14. As to claim 9, Zintel as modified teaches wherein the display service includes a window service for describing a window [paragraphs 0113, 0114 and 0119 of Saint], the window service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the window service [paragraph 0557 of Zintel].

15. As to claim 10, Zintel as modified teaches wherein the display service includes a window list service [paragraphs 0113, 0114 and 0119 of Saint] for containing a list of window services appearing on a display, the window list service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of

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Zintel] and a unilateral contract for describing one or more behaviors of the window list service [paragraph 0557 of Zintel].

16. As to claim 11, Zintel as modified teaches wherein the display service includes a window update service for refreshing a window represented by a window service [paragraphs 0113, 0114 and 0119 of Saint], the window update service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the window update service [paragraph 0557 of Zintel].

17. As to claim 12, Zintel teaches a keyboard service [paragraphs 0144 – 0146 of Saint] with a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the keyboard service [paragraph 0557 of Zintel].

18. As to claim 14, Zintel teaches a mouse service [paragraphs 0144 – 0146 of Saint], the mouse service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the mouse service [paragraph 0557 of Zintel].

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19. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel in view U.S. Patent No. 6,643,650 to Slaughter et al. [hereinafter Slaughter, previously cited].

20. As to claim 16, Zintel teaches a computer-implemented method for processing input/output events by devices as services [an Event Subscription Server and an Event Source; paragraph 0062], the method comprising:

requesting, by a computing system configured to represent devices as services in a decentralized operating system [client device 950; paragraph 0554], a service representing a device for an input/output event [Clients send out a User Datagram Protocol (UDP) multicast packet containing the identifier of the desired service; paragraphs 0524, 0087 and 0106], the service including a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080] and a unilateral contract for describing one or more behaviors of the service [paragraphs 0213, 0214, 0261, 0266 – 0269, 0524], the unilateral contract expressed in a language specifying an order of messages that flow in or out of services [wire protocol (the content and sequence of network messages); paragraphs 0261 and 0267];

receiving a customizable, tag-based message that contains the input/output event [paragraph 0276]. Zintel does not specifically disclose requesting the service to remove the input/output event.

However, Slaughter teaches requesting the service to remove the input/output event [col. 32, lines 10 – 32 of Slaughter].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Zintel to incorporate the features of Slaughter. One of ordinary skill in the art would have been motivated to make the combination because this removes processed events from storage and reduces the memory requirements of the system. Zintel and Slaughter does not specifically disclose requesting the service to change a cursor shape, the act of requesting invoking a cursor shape service that changes the shape of the cursor.

However, Saint teaches a display service includes a cursor shape service [various types of input, from no input at all to pen-input, keyboard, mouse, and button input. Each type of input will generally be handled by a respective input service, wherein the existence and capabilities of each input service will be described in that service's UPnP description information; paragraph 0144 – 0146 of Saint] for describing the shape on an on-screen cursor [If the device has a display, these pointer primitives may have a different resolution that may not match the x and y of the display; paragraph 0155], requesting the service to change a cursor shape [MouseDown; paragraph 0152], the act of requesting invoking a cursor shape service that changes the shape of the cursor [MouseDown, paragraph 0152; Note: the shape of the cursor changes in response to a MouseDown event].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the system of Zintel to include the features of Saint. One of ordinary skill in the art would have been motivated to make the combination because this provides a mechanism that enables interaction between a

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low-cost networked device and an "extended" personal computer, wherein a majority of the software and hardware components used to enable the interaction are provided by the extended PC, and the remote device requires limited hardware that supports "lightweight" software service components [paragraph 0023 of Saint].

21. As to claim 21, see the rejection to claim 16 above. In addition, Zintel teaches the one or more behaviors are described by behavior sentences [paragraphs 0558 – 0563; paragraph 0213: "Contract defines network data packets 413, request/response patterns, and protocol"], wherein the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract [paragraphs 0524, 0528] or when the external service performs the unilateral contract according to the order of messages specified in the unilateral contract [Rehydrator 410 converts calls of an application program 416 to the IClock interface 414 into the network data messages specified in the Contract to invoke the corresponding commands of the Clock Service; paragraph 0214], and wherein acceptance of the unilateral contract creates an instance of communication between services [paragraphs 0117, 0214, 0524, 0528]. Saint also teaches requesting the service to change a position of a cursor, the act of requesting invoking a cursor shape service that changes the position of the cursor [MouseMove; paragraph 0152].

22. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel and Saint further in view of Slaughter.

23. As to claim 13, Zintel teaches wherein the keyboard service includes a data service for containing keyboard events generated by a keyboard [paragraphs 0144 – 0146 of Saint], the data service being capable of responding to queries to remove keyboard events for processing [col. 32, lines 10 – 32 of Slaughter]. As to the motivation for combining Zintel and Saint with Slaughter see the rejection to claim 16 above.

24. As to claim 15, Zintel teaches wherein the mouse service includes a data service for containing mouse events generated by a mouse [paragraphs 0144 – 0146 of Saint], the data service being capable of responding to queries to remove mouse events for processing [col. 32, lines 10 – 32 of Slaughter].

25. Claims 17, 18, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zintel and Slaughter further in view of Saint.

26. As to claim 17, Zintel as modified teaches requesting the service for creating a window, the act of creating a window creating a window service [paragraphs 0113, 0114 and 0119 of Saint] with a port identifiable by an identifier that includes a uniform resource identifier [paragraph 0080 of Zintel] and a unilateral contract for describing one or more behaviors of the window service [paragraph 0557 of Zintel]. As to the

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motivation for combining Zintel and Slaughter with Saint see the rejection to claim 7 above.

27. As to claim 18, Zintel as modified teaches comprising requesting the service for refreshing the window, the act of requesting invoking a window update service that repaints the window [paragraphs 0113, 0114 and 0119 of Saint].

28. As to claim 20, Zintel as modified teaches requesting the service to change a position of a cursor, the act of requesting invoking a cursor position service that changes the position of the cursor [paragraphs 0145 – 0146 of Saint].

29. As to claims 22 and 23, these are product claims that correspond to method claims 17 and 18; see the rejections to claims 17 and 18 above which also meet these product claims.

Conclusion

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CONTACT INFORMATION

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LI B. ZHEN whose telephone number is (571)272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sub Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Li B. Zhen/
Primary Examiner, Art Unit 2194